



STATE OF ARIZONA
DIVISION OF EMERGENCY
MANAGEMENT



RECOVERY SECTION

STANDARD OPERATING PROCEDURES

PUBLIC ASSISTANCE PROGRAM

SECTION 10.e

406 HAZARD MITIGATION

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DIVISION OF EMERGENCY MANAGEMENT
PUBLIC ASSISTANCE PROGRAM
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406 HAZARD MITIGATION

I. OVERVIEW

406 Hazard Mitigation is designed to provide opportunity, under the Public Assistance Program, for additional funding above and beyond the cost to repair a facility to pre-disaster condition. By mitigating a facility it is restored to a condition better than its pre-disaster condition and the key objective is to reduce or eliminate damages in future disasters. Upgrades required when restoring a facility to current codes and standards are not hazard mitigation measures. Repairing a facility to current codes and standards is part of the eligible restoration work.

In order for these hazard mitigation measures to be considered eligible, they must be appropriate to the disaster damage and prevent future damage similar to that caused by the declared event. These measures can only be applied to the damaged element(s) of the facility and cannot increase risk or cause adverse effects to the facility or other property. 406 Hazard Mitigation funds may be considered for use in conjunction with eligible permanent repair or replacement work only (Category C-G projects); hazard mitigation cannot be applied to emergency work (Category A-B).

406 Hazard Mitigation measures must be reviewed to determine cost effectiveness to the project. To make that determination the total eligible cost of the project, before deducting insurance proceeds, is the amount used for the cost comparison. There are typically three methods by which cost effectiveness is determined in order to obtain approval for the additional funding:

1. If the request amounts to an additional 15% of the total eligible cost of the eligible repair work for the damaged facility, approval for the hazard mitigation measures is easy to obtain.
2. A damaged site that has been determined to be eligible for repair to a condition equal to pre-disaster may also be considered for mitigation action up to 100% of the cost to repair to pre-disaster condition. (FEMA Policy 9526.1 lists examples of 406 mitigation measures that have been determined to be cost effective, providing they don't exceed the cost to repair.)
3. For mitigation measures that exceed 100% of the total eligible cost to repair to pre-disaster condition, a Benefit/Cost Analysis (BCA) should be performed in order to demonstrate that the mitigation measure is cost effective.

II. INSTRUCTIONS TO COMPLETE 406 HAZARD MITIGATION PROPOSALS

406 Hazard Mitigation can be applied to both State and Federally declared disasters. The Mitigation Proposal forms and process require the same information for either type of declaration. When working with an applicant to complete a hazard mitigation proposal first begin by asking the questions listed on the checklist below.

If the applicant is still interested in submitting a mitigation proposal, next steps will be to help them complete the questions listed the ADEM Proposal for PA406 Hazard Mitigation (Form AZ PA 204-17) and define the scope of work and cost estimate on the Hazard Mitigation Proposal Form (Form AZ PA 204-17A)

(Copies of these forms can be found in Section 21 of the PASOP.)

Hazard Mitigation Measures must be approved prior to start of work to ensure eligibility, cost effectiveness and environmental/historic compliance. If work begins prior to approval, funding for the entire project can be denied.

III. 406 HAZARD MITIGATION CHECKLIST

- _____ What intensity of event caused the damage? (i.e., a 25-year storm)
On what data was this determination made?
- _____ What is the design level of the project? (i.e., Will it protect the structure during a 100-year storm? Magnitude 6.0 earthquake?) What data is this design based on?
- _____ What intensity of event will cause damage to the proposed structure/infrastructure in the future and what is the percent or dollar value of the expected damages for these possible events?
- _____ What were the past damages at the project location? (i.e., what happened; dollar figures to repair) What dates did the past damages occur?
- _____ What will the damages cost to repair in future events if the mitigation project is not done? (how much for what intensity event)

NOTE: The data that the project is based on must be included. The project has to be more than just a good idea!!

Following is an explanation of the Mitigation Program and additional references.

IV. FIELD GUIDELINES FOR 406 MITIGATION PROJECTS

It makes sense to break the cycle of damage-repair-damage-repair.....

Note: A good mitigation project is one that solves the problem, which means that it will be well designed and it will last.

Example: If a road has washed out during this flood, and the applicant states that the road has washed out many times in the last 10-15 years, it seems like good sense to put a culvert in the area where it always washes out. This means that the culvert has to be sized properly for the design-storm (i.e., if the culvert is designed to accommodate the 100-year flood, then the flow characteristics of the 100-year storm must be known and taken into account. This information will allow the project officer to specify the correct sized culvert). It also must be determined what level of storm damages this road as it is currently built – Is it a two-year storm?; A 50-year storm? This is mandatory information if the mitigation officer is to successfully run a BCA on the FEMA software and approve the 406 mitigation proposal.

One of the best tools we have to break this cycle is to use the 406 mitigation program to reduce or eliminate the damage-repair cycle. For the projects that must pass a BCA to be eligible, the following guidelines will help determine if a project might be a good candidate:

- Does the mitigation project make sense?
- Will the mitigation project protect the damaged element from future disaster events?

If so, then go to the next question because we need more than “it just makes sense” to pass the BCA.

- What information is the design of the project based on? If the project is to protect the infrastructure during a 100-year flooding event, it is necessary to know what the 100-year flooding event is expected to be. If the project officer has the appropriate information, the project can be well designed and will serve the applicant well. Such information as water elevation, flow characteristics, flow rate, etc. are necessary. Sometimes if only one of these pieces of information is available, the project can still be considered but the chances of passing the BCA test will have diminished considerably. This type of information can be obtained from experts, such as the National Weather Service, the US Geological Survey, Flood Insurance Study, etc.
- What level of storm (or disaster) caused the damage this time? Was it a 100-year flood? A 25-year flood? This information is absolutely mandatory and can be obtained through stream gage data, Flood Insurance studies, National Weather Service data, State or US Geological Survey, etc. Documented past damages which include: the dates of damages, dollar value of repairs, type of damage, and the level of the storm (or disaster) that caused the damage (i.e., was it a 75-year storm? 6.2 magnitude earthquake?) can be used.

Additional references:

1. Public Assistance Guide, FEMA - 322, June 2007, pages 124-127.
2. Code of Federal Regulations, 44CFR, §206.201(f) and 206.226 (c).
3. FEMA Policy 9526.1
4. FEMA Benefit Cost Analysis software
5. FEMA – 406 Mitigation “Go-Book” with CD-ROM.